Post-Remedial Excavation Confirmation Sample Report Parcel A, Report No. 4

Boeing Realty Corporation C-6 Facility
Los Angeles, California

August 1997

MONTGOMERY WATSON

POST-REMEDIAL EXCAVATION CONFIRMATION SAMPLE REPORT PARCEL A REPORT NO. 4

BOEING REALTY CORPORATION C-6 FACILITY LOS ANGELES, CALIFORNIA

August 1997

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Appendices for this document are on file at Boeing Realty Corporation, Long Beach, California.

SECTION 1.0

INTRODUCTION

In October 1996, Montgomery Watson (Montgomery) was retained by McDonnell Douglas Realty Company (MDRC), now the Boeing Realty Corporation, to assist with the redevelopment of Parcel A (the Site) of their C-6 facility located in Los Angeles, California. Figure 1 presents the C-6 facility. Figure 2 delineates the Site. The Site was formerly used to manufacture and store aircraft parts.

1.1 OVERVIEW

The Site consists of the northernmost quarter of the C-6 facility, encompassing approximately 50 acres. Demolition of the following buildings at the Site has occurred: Building 29, 33, 34, 36, 37, 57, 58, 61, and 67. Demolition of the following buildings is pending: Building 40, 41, 43/44, 45, and 66-A.

Information gathered during the data compilation and evaluation phase of this project indicated the presence of petroleum products and other chemicals of concern in the surface and subsurface.

A soil sampling and remedial excavation effort is being conducted in conjunction with the removal of foundations, slabs, and below-ground structures. The purpose of this effort is to assess soil quality and remove soil affected with petroleum hydrocarbons and other chemicals of concern in preparation for redevelopment of the Site. Soil which is determined to be affected with petroleum hydrocarbons and other chemicals is excavated and stockpiled at the Site. Confirmation samples are collected along the walls and floor of each remedial excavation to confirm that the surface soil (upper 12 feet) meets soil screening criteria.

Confirmation sampling activities discussed in this report have been conducted at remedial excavations in the open area located east of Buildings 37 and 41. For convenience, this area is referred to as "Open Area No. 1" in this report.

1.2 PURPOSE AND OBJECTIVE

This document presents the results of confirmation sampling conducted in excavation areas within Open Area No. 1. Specifically, this document is the fourth in a series of confirmation sample reports which follows the facility-wide strategy for assessing and screening the analytical data to confirm that the surface soil (upper 12 feet) areas, which were contaminated with petroleum hydrocarbons and other chemicals of concern, meet soil screening criteria.

The final surface soil residual chemical concentrations in the excavated area must meet soil screening criteria established for the Site and the C-6 facility as presented in Section 3.1 of this report. Along with its companion document, *Soil Stockpile Report, Parcel A, Report No. 4* (Montgomery Watson, 1997(h)), this report documents that the Site excavation efforts meet these criteria.

SECTION 2.0

OPEN AREA NO. 1 REMEDIAL EXCAVATIONS

Open Area No. 1 is located along the eastern portion of the Site, east of Building 37 and Building 41 extending to the Normandie Avenue property boundary. Open Area No. 1 is so designated because of its absence of structures, except for the Building 43/44 water tanks in the northeast corner. Open Area No. 1 formerly included the Gravel Yard, which was used for storage of miscellaneous materials and parts from the manufacturing operations of the facility. The facility storm drain outfall to the storm sewer is located near the northeast corner of the area. Historically, a railroad spur crossed Open Area No. 1 trending from south to north.

Building 41 was formerly used as a boiler house. The water tanks located at Building 43/44 in the northeast corner of Open Area No. 1 were formerly used to store diesel fuel oil which was pumped into Building 41 through buried product pipelines. These tanks were converted from diesel storage to water tanks (part of the C-6 facility's fire suppression system) approximately 25 years ago. The abandoned product lines leading from the tanks to Building 41 were discovered during the demolition process, and remedial excavations discussed in this report were conducted to remove primarily hydrocarbon-affected soil associated with releases from these product lines. Remedial excavations discussed in this report were conducted at the southern portion of Open Area No. 1 near the location where the product lines entered Building 41.

The 20-foot by 20-foot grid used to reference Building 37 remedial excavations (Montgomery Watson, 1997(e-g)) was extended into Open Area No. 1 as presented in Figure 3 for the same purpose. The location of each remedial excavation discussed in this report is presented in Figure 3. Remedial excavations were recorded using the following nomenclature:

Open Area No. (OA#) - Remedial Excavation (RE) - Chronological Number (#)
e.g., OA1-RE-1

Pertinent information related to the remedial excavations and the associated stockpiled soil discussed in this report is presented below.

Excavation/Stockpile(s)	Approximate Volume	Date of Excavation	Stockpile Location(s)
OA1-RE-1 / A — J	2,500 cu yds total	14 Jul 97 — 16 Jul 97	West of Building 1
OA1-RE-2 / A1/A2 — J	2,500 cu yds total	16 Jul 97 — 18 Jul 97	West of Building 1 and within Building 37 footprint
OA1-RE-3 / A — J	2,500 cu yds total	18 Jul 97 — 21 Jul 97	Within Building 37 footprint

2.1 SOIL SAMPLING

Hot spot sampling and confirmation sampling have been employed at Open Area No. 1. Detailed procedures for these activities are outlined in the *Sampling and Analysis Plan for Demolition Activities at the Douglas Aircraft Company C-6 Facility* prepared by Integrated Environmental Services, Inc. (IESI, 1997(a)) and previously submitted to the Regional Water Quality Control Board (RWQCB). In addition, stockpile sampling was performed on the excavated material. These procedures can be summarized as follows:

2.1.1 Hot Spot Sampling

Hot spot sampling was conducted at predetermined locations where former items of concern were located (e.g., product lines), and at other locations where demolition activities revealed soil which may have been affected by petroleum hydrocarbons or other chemicals of concern.

Hot spot samples were collected by first exposing "fresh" soil beneath the surface using a stainless steel utensil or similar device. A photoionization detector (PID) was used to measure headspace organic vapor concentrations in the freshly exposed soil at each location. Soil samples were collected for analysis where at least one of the following conditions existed: 1) the headspace VOC reading exceeded 5 ppm, (2) areas where staining of the soil was visible, or (3) areas where odors were noticeable.

Soil samples were collected for analysis in pre-cleaned, stainless steel sleeves by driving the sleeve into the soil with a rubber mallet or drive sampler. The ends of the sleeves were then covered with Teflon film and secured with plastic end caps. A unique sample identification using the following nomenclature was written in indelible ink on a sample label and attached to the sleeve.

Product Line (PL) - Grab Sample (GS) - Chronological Number (#) - Sample Depth (feet)
e.g., PL-GS-2-2.5'

Sample sleeves were placed in a cooler with blue ice and transported under chain-of-custody to a State-certified laboratory for analysis. Hot spot samples have been analyzed according to the analytical schedule presented in Table 1.

2.1.2 Stockpile Sampling

Excavated soil was placed in stockpiles each consisting of approximately 250 cubic yards of soil. Generally, stockpile samples were collected at a frequency of approximately one sample per stockpile. Stockpile samples were collected from the most noticeably affected soil within the stockpile. Samples were collected by using a shovel to cut vertically into the side of a stockpile at each sample location to expose "fresh" soil; samples were then collected from the exposed vertical wall and headspace VOC concentrations were measured using the PID.

Soil samples were collected for analysis in pre-cleaned, stainless steel sleeves by driving the sleeve into the soil with a rubber mallet or drive sampler. The ends of the sleeves were then covered with Teflon film and secured with plastic end caps. A unique sample identification using the following nomenclature was written in indelible ink on a sample label and attached to the sleeve.

Open Area No. (OA#) - Remedial Excavation No.(RE#) - Stockpile Chronological Number (SP#)

e.g., OA1-RE1-SP4

Sample sleeves were placed in a cooler with blue ice and transported under chain-of-custody to a State-certified laboratory for analysis.

Stockpile samples have been analyzed according to the analytical schedule presented in Table 1.

2.1.3 Confirmation Sampling

Confirmation samples were collected along the walls and floor of each remedial excavation to confirm that the surface soil (upper 12 feet) meets the soil screening criteria. Confirmation sampling was conducted at a frequency of at least one sample location each 20 feet along the walls and floor of each excavation.

Soil removal continued at a particular location until the following conditions were met: 1) the headspace VOC reading in freshly exposed soil was less than or equal to 5 ppm, and soil staining was not visible, and odors were not noticeable, or 2) the maximum excavation depth of 12 feet had been reached. A confirmation sample was collected when these conditions were met. Iterations of additional soil excavation were conducted as required until confirmation sample analytical data indicated that *in situ* soil quality met the soil screening criteria established in Section 3.1 of this report.

Confirmation soil samples were collected by first exposing "fresh" soil beneath the surface of a wall and floor of an excavation using a stainless steel utensil or similar device. Soil samples were collected for analysis in pre-cleaned, stainless steel sleeves by driving the sleeve into the soil with a rubber mallet or drive sampler. The ends of the sleeves were then covered with Teflon film and secured with plastic end caps. A unique sample identification

using the following nomenclature was written in indelible ink on a sample label and attached to the sleeve.

Open Area No. (OA#) - Grab Sample (GS) - Chronological Number (#) - Sample Depth (feet)

e.g., OA1-GS-42-3'

Sample sleeves were placed in a cooler with blue ice and transported under chain-of-custody to a State-certified laboratory for analysis. Confirmation samples have been analyzed according to the analytical schedule presented in Table 1; however, some confirmation sample analyses were limited to target-specific chemicals once such analytes were identified either through previous sampling activities or historical site knowledge.

2.2 IN SITU SOIL QUALITY

Soil removal at Open Area No. 1 began on July 14, 1997 due to PID readings, visual observations, and noticeable odors in soil in the vicinity of the product lines.

2.2.1 OA1-RE-1 Remedial Excavation

Soil removal at remedial excavation OA1-RE-1 began on July 14, 1997 and was completed on July 16, 1997. Approximately 2,500 cubic yards of stockpiled soil associated with this additional excavation was removed with an excavator, transported and stockpiled west of Building 1 (Stockpiles A through J).

Thirteen confirmation samples were collected at locations presented in Figure 4. Analytical data are summarized in Table 2. A complete set of analytical data are presented in Appendix A-1.

2.2.2 OA1-RE-2 Remedial Excavation

Remedial excavation OA1-RE-2 was conducted from July 16, 1997 through July 18, 1997. Approximately 500 cubic yards of soil associated with this excavation was removed with an excavator, transported and stockpiled west of Building 1 (Stockpiles A1/A2 and B). Approximately 2,000 cubic yards of soil associated with this excavation was removed with an excavator, transported and stockpiled within the Building 37 footprint (Stockpiles C through J).

Fifteen confirmation samples were collected at locations presented in Figure 5. The analytical data for these samples are summarized in Table 3. A complete set of laboratory analytical reports is presented in Appendix A-2.

2.2.3 OA1-RE-3 Remedial Excavation

Soil removal at remedial excavation OA1-RE-3 began on July 18, 1997 and was completed on July 21, 1997.

Approximately 2,500 cubic yards of stockpiled soil associated with this additional excavation was removed with an excavator, transported and stockpiled within the Building 37 footprint (Stockpiles A through J).

Twenty confirmation samples were collected at locations presented in Figure 6. The analytical data for these samples are summarized in Table 4. A complete set of laboratory analytical reports is presented in Appendix A-3.

SECTION 3.0

DATA SUMMARY AND CONCLUSIONS

This section summarizes the soil screening criteria and confirmation sampling data from each remedial excavation discussed in this report and concludes whether all affected soil has been removed, or if additional excavation of affected soil is warranted.

3.1 SOIL SCREENING METHODOLOGY

The soil screening criteria have been developed to satisfy two primary objectives: (1) residual concentrations in soil must be below levels projected to impact underlying drinking water sources, and (2) residual concentrations must be below levels projected to potentially impact human health under future construction and commercial/industrial activities at the Site.

In accordance with these objectives, individual screening criteria were developed for both drinking water and human health protection. The development of each of these screening criteria is discussed below followed by a summary of how these values will be implemented in the evaluation of whether soil which remains at each remedial excavation meets the soil screening criteria.

Drinking Water

The generalized hydrostratigraphic succession at the Site is as follows (Kennedy/Jenks, 1996(b); Dames & Moore, 1993; Department of Water Resources, 1961):

SURFACE
Bellflower Aquitard
Gage Aquifer
El Segundo Aquitard
Lynwood Aquifer

Depth to groundwater at the Site is approximately 65 feet. Hydrostratigraphic information from voluminous data collected at the neighboring Del Amo and Montrose Chemical Superfund Sites can be correlated with subsurface information collected at the Site. Hydrostratigraphic correlations suggest that the shallowest groundwater at the Site occurs in the Bellflower Aquitard, which is not recognized as a drinking water source in the region (Dames & Moore, 1993).

Although the depth to the top of the Gage Aquifer should vary from approximately 120 to 150 feet (from west to east) across the Site, the Gage Aquifer is not utilized as a source of drinking water in the region (Dames & Moore, 1993). Consequently, the shallowest drinking water resource in the region would therefore be the Lynwood Aquifer, projected to occur at the depths of approximately 210 to 240 feet (from west to east) across the Site.

Based on the depth to the first drinking water source, the following permissible concentrations to 12 feet below ground surface have been approved by the RWQCB:

Analytes	Permissible Level
TRPH	
C4 - C12	2,000 mg/kg
C13 - C22	10,000 mg/kg
C22+	50,000 mg/kg
Metals	TTLC and STLC

Notes:
TTLC: Total Threshold Limit Concentration per CCR Title 22.
STLC: Soluble Threshold Limit Concentration per CCR Title 22.

A Waste Extraction Test (WET) is performed on samples with total metal concentration(s) greater than 10 times the STLC but less than the TTLC, per CCR Title 22.

Human Health

Site-specific health-based remediation goals (HBRGs) were developed by Integrated Environmental Services, Inc. using standard United States Environmental Protection Agency (USEPA) and California Environmental Protection Agency (Cal/EPA) methodologies. HBRGs were derived assuming future commercial industrial land use with an interim construction phase. Each HBRG will be used as a predictor of the risk posed by individual VOC, SVOC, PCB and metal contaminants in soil. The additive effects of multiple contaminants have been accounted for by setting conservative risk levels at $1x10^{-6}$ for carcinogens and 0.2 for toxicants. The final cumulative risks for all residual contaminants at the Site will be addressed in the post-remedial risk assessment. Table 5 summarizes the HBRGs to be used at the Site. A more detailed discussion of the methodologies used to derive these values has been presented in the *Health-Based Remediation Goals for Surface Soils* document (IESI, 1997(b)).

Evaluation Process

All confirmation soil data at the Site will undergo the soil screening evaluation process depicted in Figure 7. This evaluation process incorporates both drinking water and human health based criteria. Additional soil excavation and/or treatment will be required at locations where confirmation sample data fail any portion of this test.

3.2 REMEDIAL EXCAVATION EVALUATIONS

Chemicals of concern at the Site can be summarized as follows:

- Petroleum hydrocarbons
- VOCs
- SVOCs
- PCBs
- Metals

The sampling and analysis program for remedial excavations discussed in this report was conservatively focused on these chemicals of concern by implementing the following analytical schedule:

- All samples were analyzed for TRPH and metals.
- All samples which contained TRPH in concentration greater than 10,000 mg/kg were subsequently analyzed for carbon chain length.
- All stockpile samples were additionally analyzed for VOCs and SVOCs.
- Stockpile samples were additionally analyzed for PCBs at a frequency of one sample per remedial excavation.
- All hot spot samples collected along the product lines were analyzed for VOCs, SVOCs, PCBs, and fuel characterization.
- Railroad spur confirmation samples were analyzed for PCBs, and selectively analyzed for VOCs, SVOCs, and fuel characterization based on field observations.

Additionally, the post-remedial excavation confirmation sampling analytical program (see Table 1) was designed to ensure that residual soils (upper 12 feet) meet the soil screening criteria.

3.2.1 OA1-RE-1 Remedial Excavation

Confirmation sample data are presented in Table 2 and can be summarized as follows:

Petroleum Hydrocarbons: The maximum concentration of TRPH in a confirmation sample collected from this remedial excavation was 1,000 mg/kg (sample OA1-GS-14-12'). This concentration is below the permissible limits for petroleum hydrocarbons, therefore TRPH was not speciated.

VOCs: VOCs were detected; however, none were reported in concentration which met or exceeded respective HBRGs.

SVOCs:. Benzo(a)pyrene was detected in confirmation sample OA1-GS-14-12' in concentration of 2.600 mg/kg. This concentration exceeds the HBRG for this compound of 1.14 mg/kg; however, the sample was collected from the depth of 12 feet (the maximum depth of excavation). Various SVOCs were detected in other samples; however, none were reported in concentration which met or exceeded respective HBRGs.

PCBs: PCBs were not detected.

Metals: All concentrations were below their respective TTLC, 10 times STLC, and HBRGs.

Conclusion: Benzo(a)pyrene was detected in one confirmation sample in concentration greater than its HBRG; however, this sample was collected from the maximum depth of the excavation of 12 feet. The data indicate that the residual soils in the OA1-RE-1 excavation meet the soil screening criteria established in Section 3.1 of this report. Approval to backfill this excavation is requested.

3.2.2 OA1-RE-2 Remedial Excavation

Confirmation sample data are presented in Table 3 and can be summarized as follows:

Petroleum hydrocarbons: The maximum concentration of TRPH in a confirmation sample collected from this remedial excavation was 6,300 mg/kg (sample OA1-GS-15-12'). This concentration is below the permissible limit for petroleum hydrocarbons, therefore TRPH was not speciated.

VOCs: VOCs were detected; however, none were reported in concentration which met or exceeded respective HBRGs.

SVOCs: Benzo(a)pyrene was detected in confirmation sample OA1-GS-16-12' in concentration of 2.300 mg/kg. This concentration exceeds the HBRG for this compound of 1.14 mg/kg; however, the sample was collected from the depth of 12 feet (the maximum depth of excavation). Various SVOCs were detected in other samples; however, none were reported in concentration which met or exceeded respective HBRGs.

PCBs: PCBs were not detected.

Metals: All concentrations were below their respective TTLC, 10 times STLC, and HBRGs.

Conclusion: Benzo(a)pyrene was detected in one confirmation sample in concentration greater than its HBRG; however, this sample was collected from the maximum depth of the excavation of 12 feet. The data indicate that the residual soils in the OA1-RE-1 excavation meet the soil screening criteria established in Section 3.1 of this report. Approval to backfill this excavation is requested.

3.2.3 OA1-RE-3 Remedial Excavation

Confirmation sample data are presented in Table 4 and can be summarized as follows:

Petroleum hydrocarbons: The maximum concentration of TRPH in confirmation samples collected from this remedial excavation was 25 mg/kg (samples OA1-GS-17-12' and OA1-GS-40-6'). This concentration is below the permissible limit for petroleum hydrocarbons, therefore TRPH was not speciated.

VOCs: Trichloroethene (maximum concentration 0.011 mg/kg) was the only VOC detected; however, this concentration did not meet or exceed its respective HBRG of 1,050 mg/kg.

SVOCs: Various SVOCs were detected; however, none were reported in concentration which met or exceeded respective HBRGs.

PCBs: PCBs were not detected.

Metals: All concentrations were below their respective TTLC, 10 times STLC, and HBRGs.

Conclusion: The data indicate that the residual soils in the OA1-RE-3 excavation meet the soil screening criteria established in Section 3.1 of this report. Approval to backfill this excavation is requested.

SECTION 4.0

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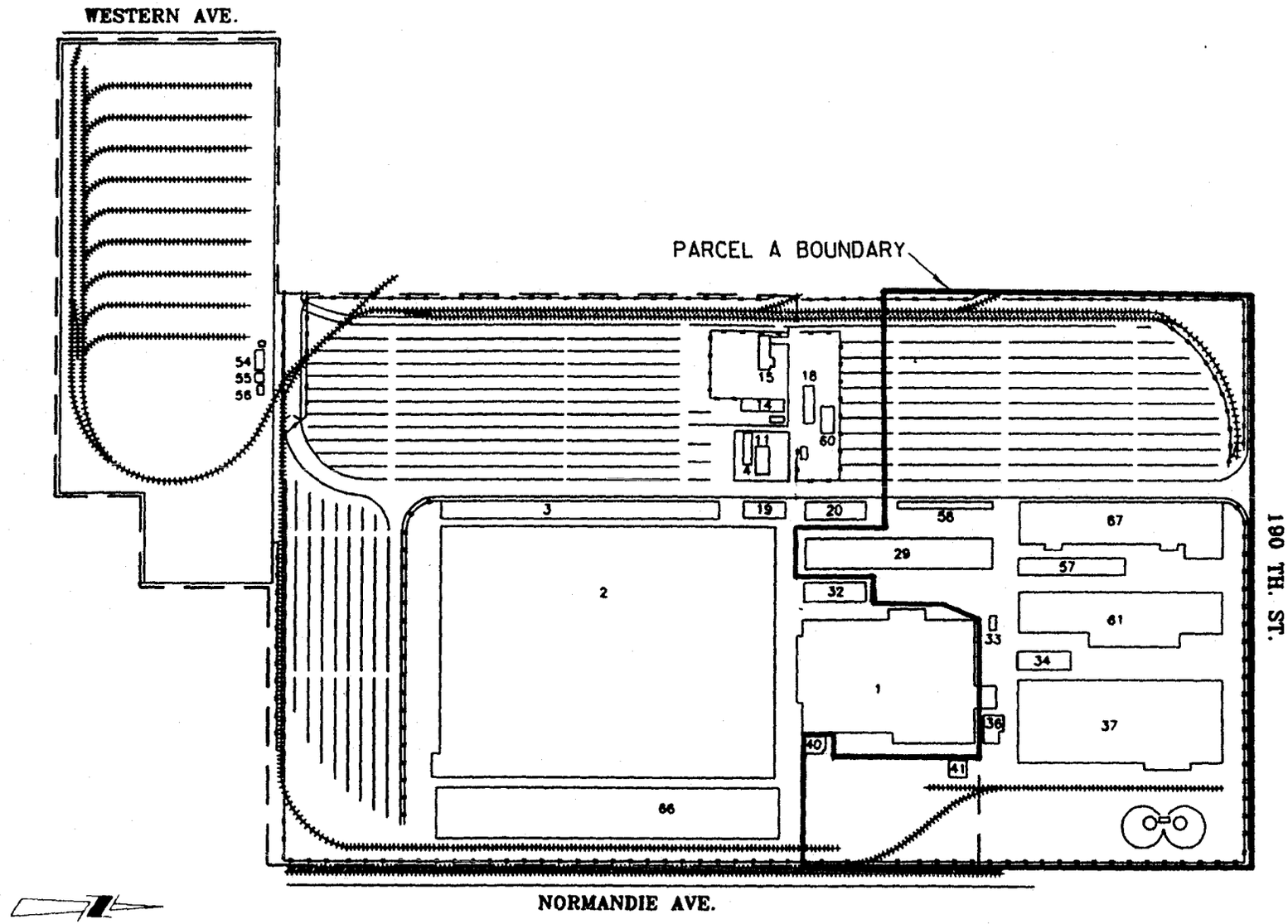
Figures

MONTGOMERY WATSON

C-6 FACILITY MAP

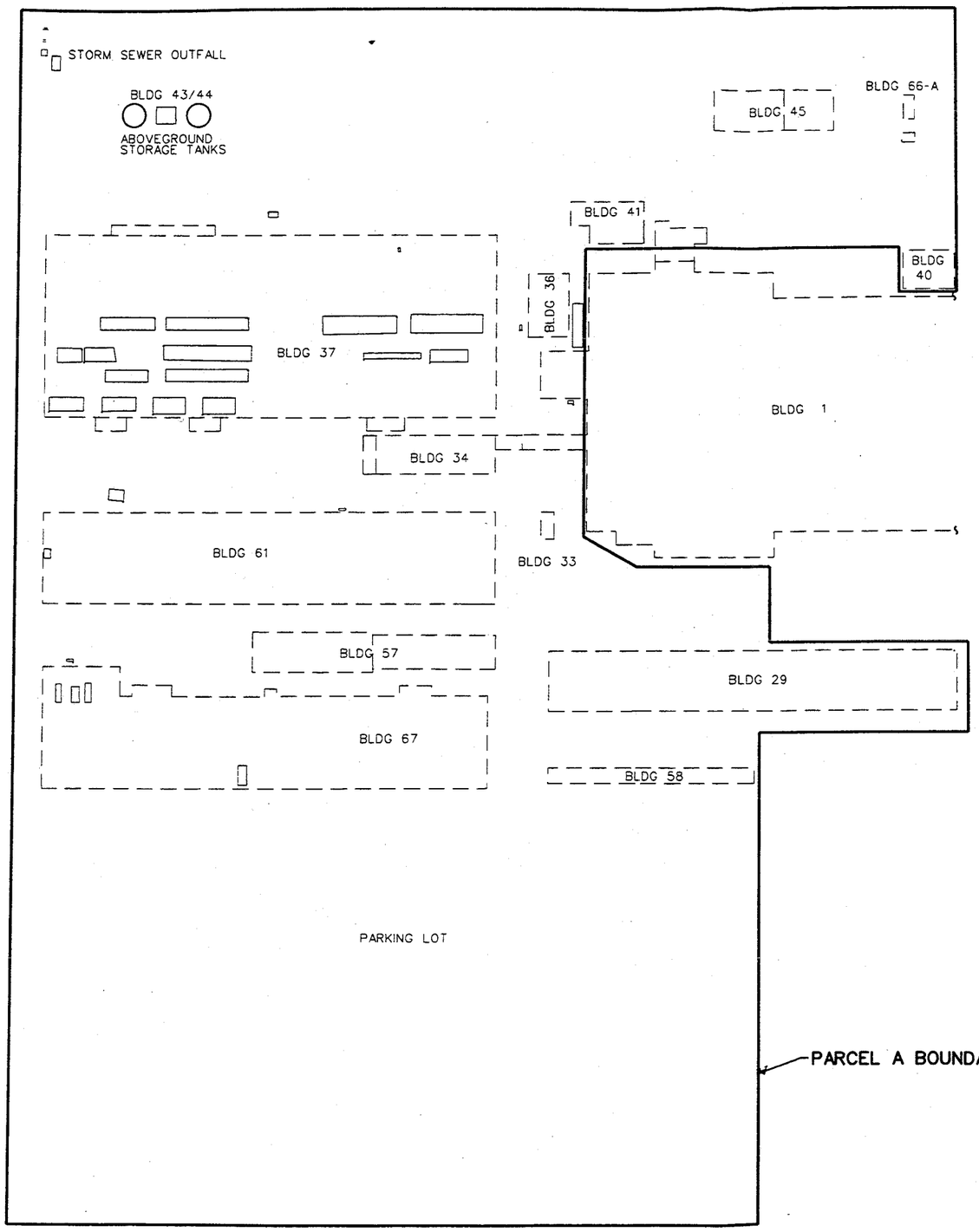
FIG. 1



0 600 1200

Approximate Scale: 1"=600'

Base map developed from Facility Layout and Subject Property Map by Kennedy/Jenks Consultants, May 1996.



0 40 80 120 160 200
(IN FEET)

BASE MAP DEVELOPED FROM TAIT & ASSOCIATES INC. SURVEY DRAWING DATED 10/22/96.

REV	DATE	BY	DESCRIPTION

SCALE: AS SHOWN

DESIGNED
DRAWN N. CHRAKIAN
CHECKED S. REINERS

SUBMITTED
PROJECT ENGINEER R. C. E. NO. DATE
RECOMMENDED
MONTGOMERY WATSON R. C. E. NO. DATE

MONTGOMERY WATSON
Pasadena, California

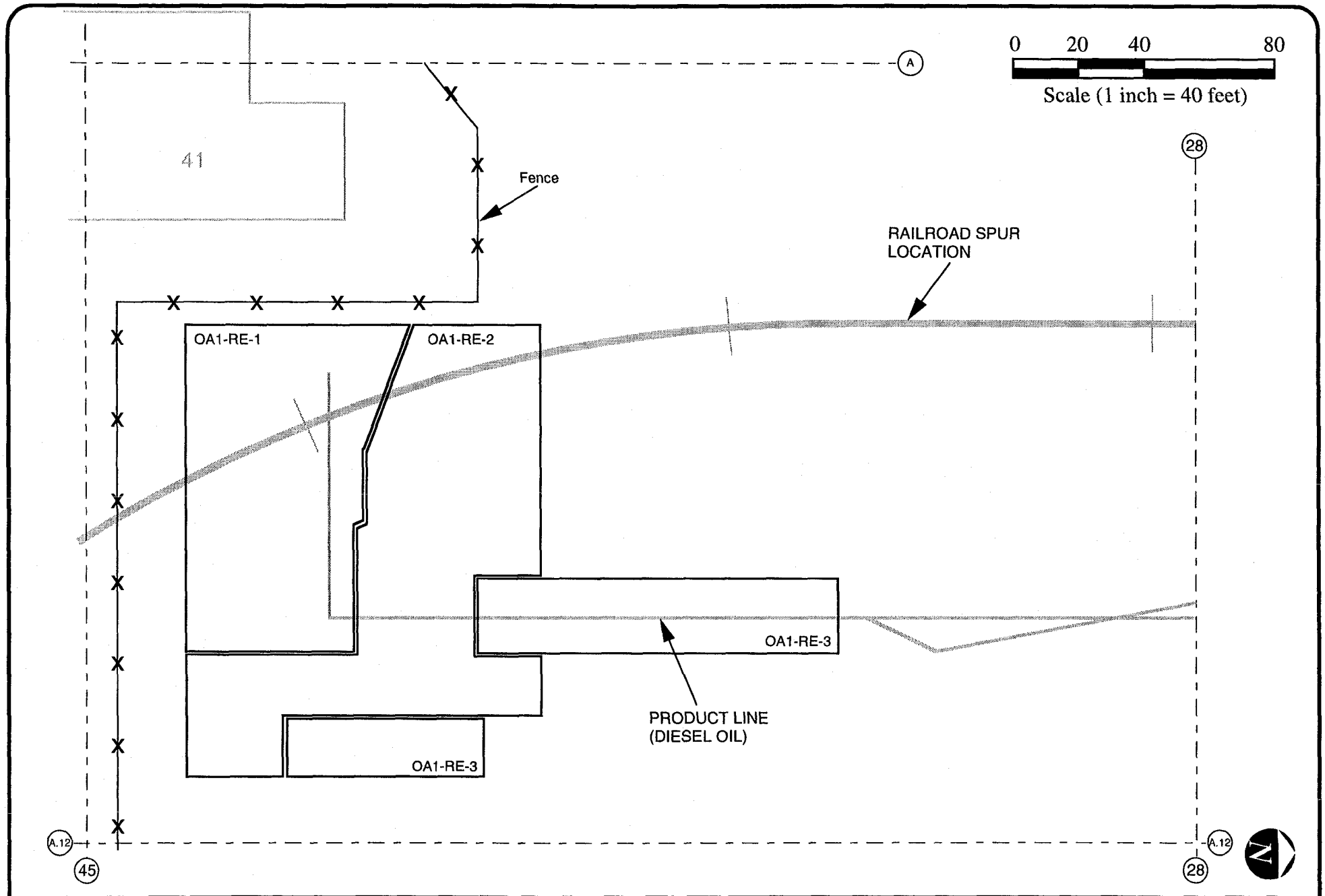
APPROVED DATE
APPROVED DATE

BOEING REALTY CORPORATION
PARCEL A
SITE MAP

SHEET FIG. 2 OF ▪ SHEETS

JOB No. ▪ FILE No. ▪

BOE-C6-0061756

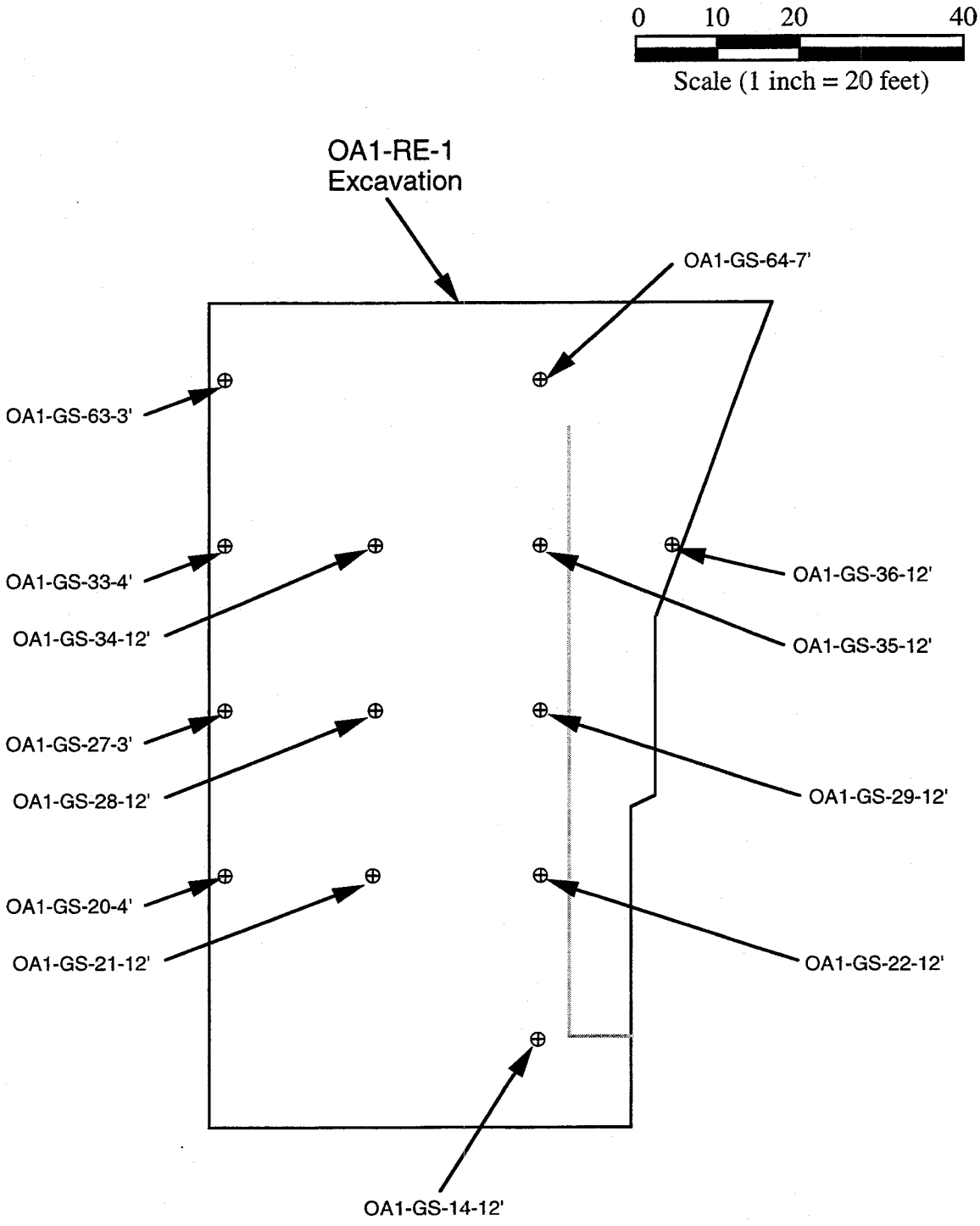


BOEING REALTY CORPORATION
C-6 FACILITY

Remedial Excavations OA1-RE-1, OA1-RE-2, and OA1-RE-3 Locations

FIGURE 3

BOE-C6-0061757



BOEING REALTY CORPORATION
C-6 FACILITY

FIGURE 4

Remedial Excavation OA1-RE-1 Confirmation Sample Locations

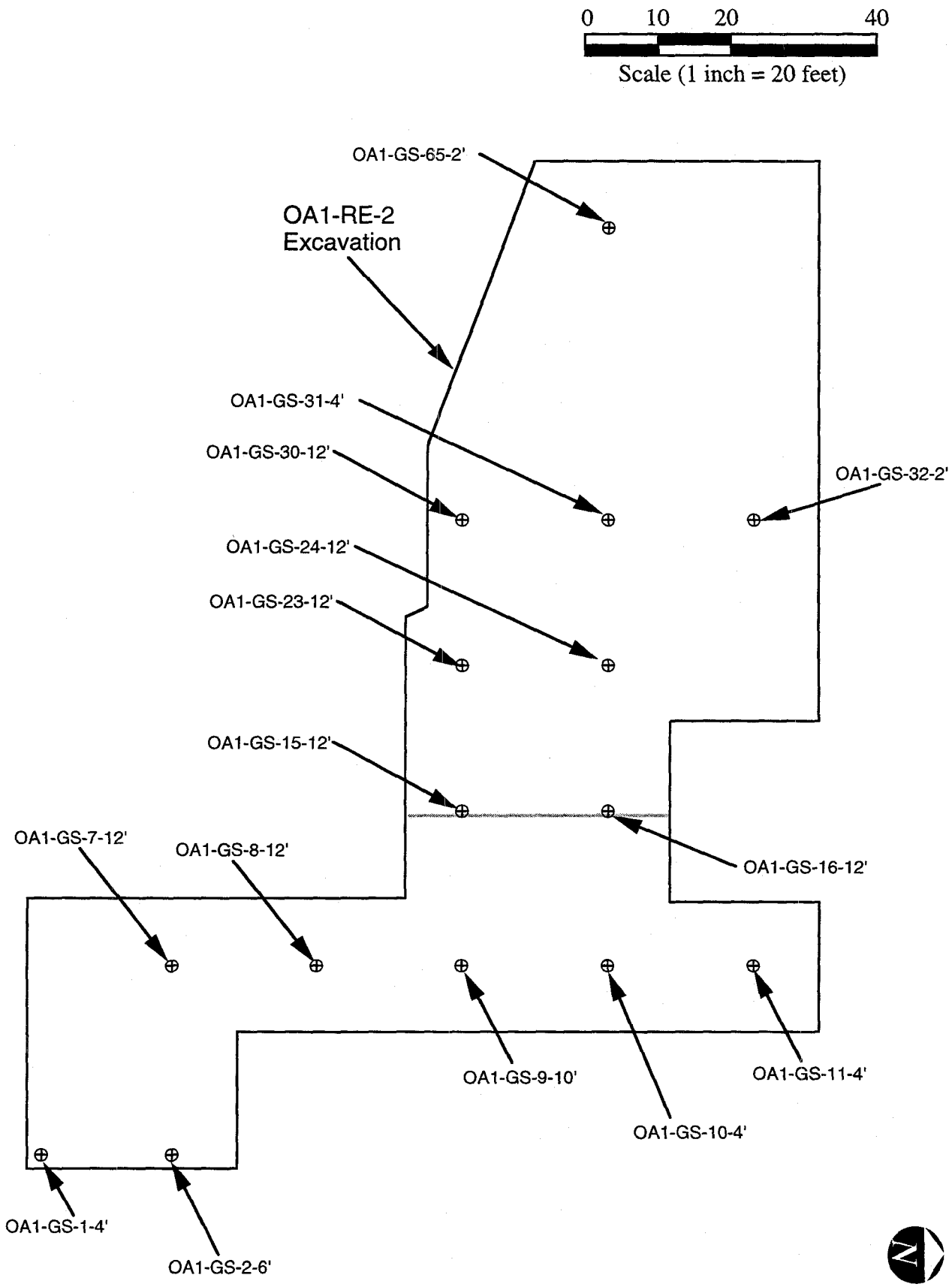


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FIGURE 5

Remedial Excavation OA1-RE-2 Confirmation Sample Locations

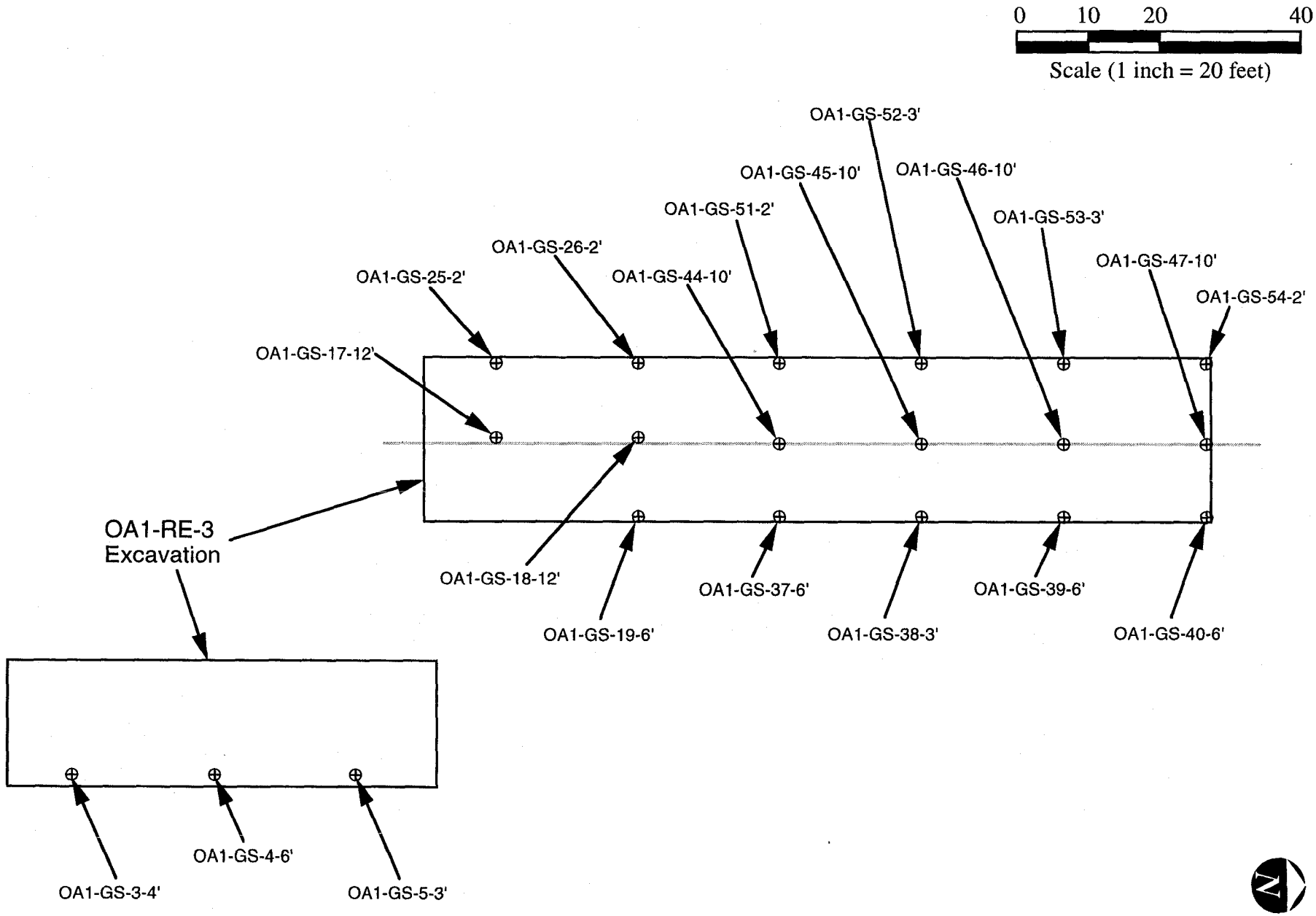

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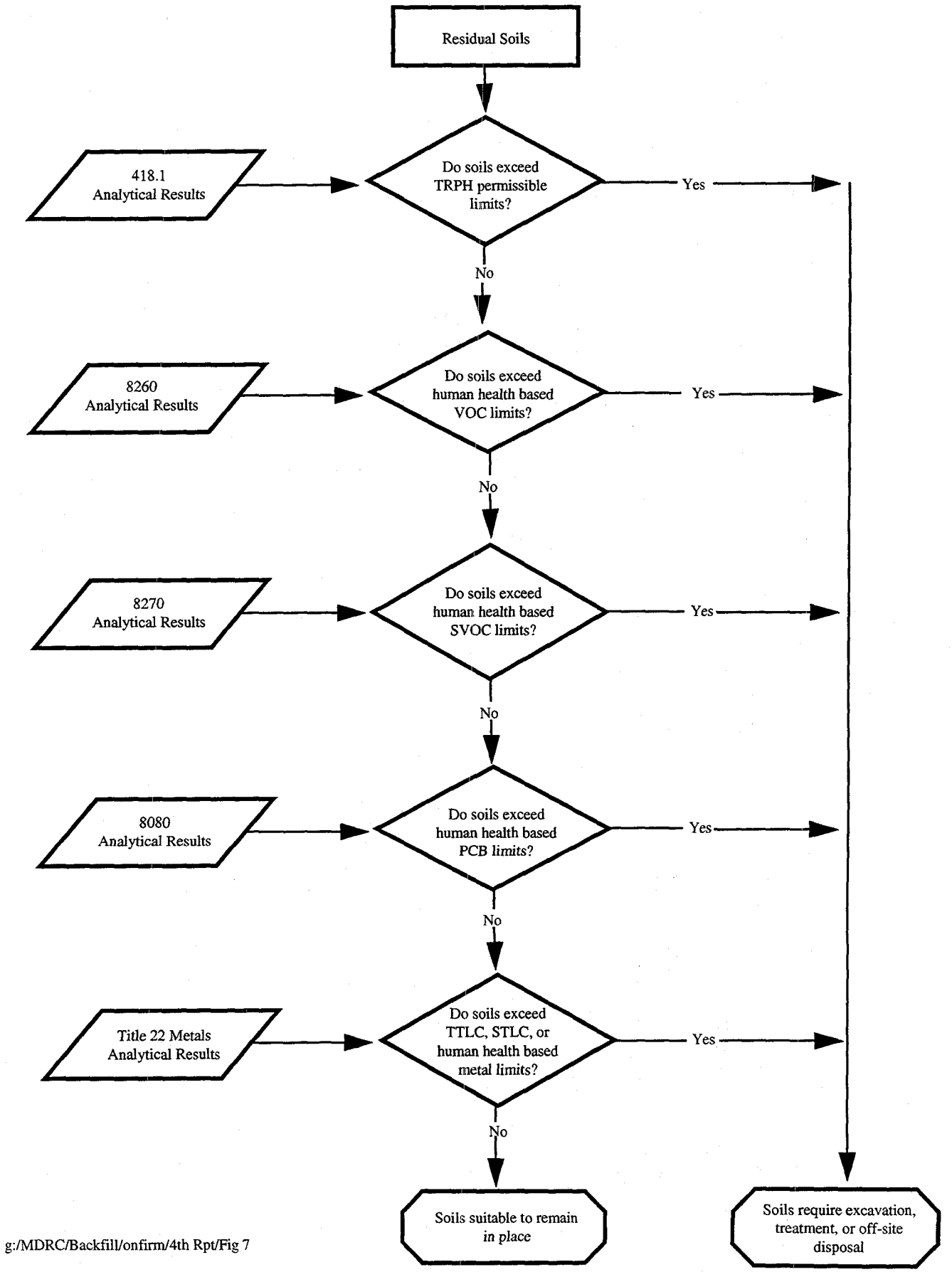
FIGURE 6

Remedial Excavation OA1-RE-3 Confirmation Sample Locations

BOE-C6-0061760

FIGURE 7
Soil Screening Evaluation Process



g:/MDRC/Backfill/onfirm/4th Rpt/Fig 7

Tables

TABLE 1

Summary of Soil Sample Analytical Methods

Sample Type	EPA Method	Analyte
Hot Spot Sample	418.1	TRPH (a)
	6000/7000	Metals
	8260	VOCs
	8270	SVOCs
	8080	PCBs
	8015M	Fuel Characterization
Stockpile Sample	418.1	TRPH (a)
	6000/7000	Metals
	8260	VOCs
	8270	SVOCs
	8080	PCBs (b)
Confirmation Sample	418.1	TRPH (a)
	6000/7000	Metals
	8260	VOCs (c)
	8270	SVOCs (c)
	8080	PCBs (d)

Notes:
TRPH Total Recoverable Petroleum Hydrocarbons
VOCs Volatile Organic Compounds
SVOCs Semi-volatile Organic Compounds.
PCBs Polychlorinated Biphenyls
(a) Samples exhibiting TRPH concentration greater than 10,000 mg/kg were submitted for carbon chain analysis.
(b) One sample per remedial excavation.
(c) The number of confirmation samples analyzed for VOCs and SVOCs is approximately equal to the number of stockpile samples analyzed for VOCs and SVOCs. Confirmation samples are selected for analysis of VOCs and SVOCs based on highest TRPH concentration, and location of evenly spaced confirmation sample locations.
(d) Generally, one sample per each remedial excavation, or following the removal of each 2500 cubic yards of soil, whichever is less.

TABLE 2
Analytical Data Summary
Remedial Excavation OA1-RE-1 Confirmation Samples
Page 1 of 5

Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth: OA1-GS-14-12' 7/22/97 A.8/A.9-41.5 @ 12' bgs*	OA1-GS-20-4' 7/22/97 A.7/A.8-43.5 @ 4' bgs*	OA1-GS-21-12' 7/22/97 A.7/A.8-42.5 @ 12' bgs*	Regulatory Levels: TTLC (mg/kg)	STLC (mg/L)
TRPH (mg/kg)	418.1	1,000	<8.0	<8.0		
Title 22 Metals (mg/kg)						
Antimony	6010	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	500	5
Barium	6010	140	120	110	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	24	24	37	2,500	5
Cobalt	6010	9.3	7.5	8.7	8,000	80
Copper	6010	18	10	19	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	14	10	17	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	700	7
Vanadium	6010	34	32	41	2,400	24
Zinc	6010	46	34	60	5,000	250
VOCs (1) (mg/kg)						
Ethylbenzene	8260	0.380	--	<0.0025		
Trichloroethene	8260	<0.100	--	<0.0025		
Total Xylenes	8260	<0.100	--	<0.0025		
n-Propylbenzene	8260	0.220	--	<0.0025		
1,3,5-Trimethylbenzene	8260	0.380	--	<0.0025		
1,2,4-Trimethylbenzene	8260	2.700	--	<0.0025		
n-Butylbenzene	8260	0.390	--	<0.0025		
Naphthalene	8260	13.000	--	<0.0025		
SVOCs (1) (mg/kg)						
Acenaphthene	8270	<0.400	--	<0.100		
Anthracene	8270	2.200	--	<0.100		
Benzo (a) Anthracene	8270	2.900	--	<0.100		
Benzo (b) Fluoranthene	8270	2.000	--	<0.250		
Benzo (g,h,i) Perylene	8270	1.800	--	<0.250		
Benzo (a) Pyrene	8270	2.600 #	--	<0.250		
Chrysene	8270	5.600	--	<0.100		
Fluoranthene	8270	3.600	--	<0.100		
Fluorene	8270	3.100	--	<0.100		
2-Methylnaphthalene	8270	46.000	--	<0.100		
Naphthalene	8270	8.500	--	<0.100		
Phenanthrene	8270	18.000	--	<0.100		
Pyrene	8270	15.000	--	<0.100		
Carbon Chain Range (mg/kg)	8015m	--	--	--		
PCBs (mg/kg)	8080	ND	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls
# = Exceeds Screening Level

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 4 for sample locations

TABLE 2
Analytical Data Summary
Remedial Excavation OA1-RE-1 Confirmation Samples
Page 2 of 5

Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth: OA1-GS-22-12' 7/23/97 A.7/A.8-41.5 @ 12' bgs*	OA1-GS-27-3' 7/23/97 A.6/A.7-43.5 @ 3' bgs*	OA1-GS-28-12' 7/23/97 A.6/A.7-42.5 @ 12' bgs*	Regulatory Levels: TTLC (mg/kg)	Regulatory Levels: STLC (mg/L)
TRPH (mg/kg)	418.1	130	<8.0	<8.0		
Title 22 Metals (mg/kg)						
Antimony	6010	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	500	5
Barium	6010	83	70	160	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	30	19	34	2,500	5
Cobalt	6010	8.4	6.2	8.2	8,000	80
Copper	6010	16	6.7	18	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	15	7.4	15	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	700	7
Vanadium	6010	36	25	37	2,400	24
Zinc	6010	44	20	47	5,000	250
VOCs (1) (mg/kg)						
Ethylbenzene	8260	<0.0025	--	--		
Trichloroethene	8260	0.0063	--	--		
Total Xylenes	8260	<0.0025	--	--		
n-Propylbenzene	8260	<0.0025	--	--		
1,3,5-Trimethylbenzene	8260	<0.0025	--	--		
1,2,4-Trimethylbenzene	8260	<0.0025	--	--		
n-Butylbenzene	8260	0.0053	--	--		
Naphthalene	8260	0.0042	--	--		
SVOCs (1) (mg/kg)						
Acenaphthene	8270	0.160	--	--		
Anthracene	8270	0.210	--	--		
Benzo (a) Anthracene	8270	0.290	--	--		
Benzo (b) Fluoranthene	8270	<0.250	--	--		
Benzo (g,h,i) Perylene	8270	<0.250	--	--		
Benzo (a) Pyrene	8270	0.270	--	--		
Chrysene	8270	0.420	--	--		
Fluoranthene	8270	0.160	--	--		
Fluorene	8270	<0.100	--	--		
2-Methylnaphthalene	8270	<0.100	--	--		
Naphthalene	8270	<0.100	--	--		
Phenanthrene	8270	0.730	--	--		
Pyrene	8270	1.100	--	--		
Carbon Chain Range (mg/kg)	8015m	--	--	--		
PCBs (mg/kg)	8080	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 4 for sample locations

TABLE 2
Analytical Data Summary
Remedial Excavation OA1-RE-1 Confirmation Samples

		Sample Number, Collection Date, Grid Location and Depth				
		OA1-GS-29-12' 7/23/97	OA1-GS-33-4' 7/23/97	OA1-GS-34-12' 7/23/97		
Analyte	**EPA Method**	**A.6/A.7-41.5 @ 12' bgs***	**A.5/A.6-43.5 @ 4' bgs***	**A.5/A.6-42.5 @ 12' bgs***	**Regulatory Levels**	
					TTLC (mg/kg)	**STLC (mg/L)**
TRPH (mg/kg)	418.1	<8.0	<8.0	<8.0		
Title 22 Metals (mg/kg)						
Antimony	6010	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	500	5
Barium	6010	81	110	290	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	26	30	24	2,500	5
Cobalt	6010	7.2	4.5	6.3	8,000	80
Copper	6010	15	9.4	14	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	13	13	11	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	700	7
Vanadium	6010	31	31	29	2,400	24
Zinc	6010	43	33	45	5,000	250
VOCs (1) (mg/kg)						
Ethylbenzene	8260	--	--	--		
Trichloroethene	8260	--	--	--		
Total Xylenes	8260	--	--	--		
n-Propylbenzene	8260	--	--	--		
1,3,5-Trimethylbenzene	8260	--	--	--		
1,2,4-Trimethylbenzene	8260	--	--	--		
n-Butylbenzene	8260	--	--	--		
Naphthalene	8260	--	--	--		
SVOCs (1) (mg/kg)						
Acenaphthene	8270	--	--	--		
Anthracene	8270	--	--	--		
Benzo (a) Anthracene	8270	--	--	--		
Benzo (b) Fluoranthene	8270	--	--	--		
Benzo (g,h,i) Perylene	8270	--	--	--		
Benzo (a) Pyrene	8270	--	--	--		
Chrysene	8270	--	--	--		
Fluoranthene	8270	--	--	--		
Fluorene	8270	--	--	--		
2-Methylnaphthalene	8270	--	--	--		
Naphthalene	8270	--	--	--		
Phenanthrene	8270	--	--	--		
Pyrene	8270	--	--	--		
Carbon Chain Range (mg/kg)	8015m	--	--	--		
PCBs (mg/kg)	8080	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 4 for sample locations

TABLE 2
Analytical Data Summary
Remedial Excavation OA1-RE-1 Confirmation Samples
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Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth: OA1-GS-35-12' 7/23/97 A.5/A.6-41.5 @ 12' bgs*	OA1-GS-36-12' 7/23/97 A.5/A.6-40.5 @ 12' bgs*	Regulatory Levels: TTLC (mg/kg)	STLC (mg/L)
TRPH (mg/kg)	418.1	<8.0	<8.0		
Title 22 Metals (mg/kg)					
Antimony	6010	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	500	5
Barium	6010	92	87	10,000	100
Beryllium	6010	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	500	5
Chromium (total)	6010	25	27	2,500	5
Cobalt	6010	7.8	7.1	8,000	80
Copper	6010	14	14	2,500	25
Lead (total)	6010	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	3,500	350
Nickel	6010	13	13	2,000	20
Selenium	6010	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	700	7
Vanadium	6010	30	32	2,400	24
Zinc	6010	42	42	5,000	250
VOCs (1) (mg/kg)					
Ethylbenzene	8260	--	--		
Trichloroethene	8260	--	--		
Total Xylenes	8260	--	--		
n-Propylbenzene	8260	--	--		
1,3,5-Trimethylbenzene	8260	--	--		
1,2,4-Trimethylbenzene	8260	--	--		
n-Butylbenzene	8260	--	--		
Naphthalene	8260	--	--		
SVOCs (1) (mg/kg)					
Acenaphthene	8270	--	--		
Anthracene	8270	--	--		
Benzo (a) Anthracene	8270	--	--		
Benzo (b) Fluoranthene	8270	--	--		
Benzo (g,h,i) Perylene	8270	--	--		
Benzo (a) Pyrene	8270	--	--		
Chrysene	8270	--	--		
Fluoranthene	8270	--	--		
Fluorene	8270	--	--		
2-Methylnaphthalene	8270	--	--		
Naphthalene	8270	--	--		
Phenanthrene	8270	--	--		
Pyrene	8270	--	--		
Carbon Chain Range (mg/kg)	8015m	--	--		
PCBs (mg/kg)	8080	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 4 for sample locations

TABLE 2
Analytical Data Summary
Remedial Excavation OA1-RE-1 Confirmation Samples
Page 5 of 5

Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth: OA1-GS-63-3' 7/28/97 A.4/A.5-43.5 @ 3' bgs*	OA1-GS-64-7' 7/28/97 A.4/A.5-41.5 @ 7' bgs*	Regulatory Levels: TTLC (mg/kg)	STLC (mg/L)
TRPH (mg/kg)	418.1	<8.0	21		
Title 22 Metals (mg/kg)					
Antimony	6010	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	500	5
Barium	6010	72	77	10,000	100
Beryllium	6010	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	500	5
Chromium (total)	6010	18	27	2,500	5
Cobalt	6010	6.7	7.0	8,000	80
Copper	6010	9.5	9.8	2,500	25
Lead (total)	6010	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	3,500	350
Nickel	6010	6.4	11	2,000	20
Selenium	6010	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	700	7
Vanadium	6010	24	32	2,400	24
Zinc	6010	19	40	5,000	250
VOCs (1) (mg/kg)					
Ethylbenzene	8260	--	<0.0025		
Trichloroethene	8260	--	<0.0025		
Total Xylenes	8260	--	<0.0025		
n-Propylbenzene	8260	--	<0.0025		
1,3,5-Trimethylbenzene	8260	--	<0.0025		
1,2,4-Trimethylbenzene	8260	--	<0.0025		
n-Butylbenzene	8260	--	<0.0025		
Naphthalene	8260	--	<0.0025		
SVOCs (1) (mg/kg)					
Acenaphthene	8270	--	<0.100		
Anthracene	8270	--	<0.100		
Benzo (a) Anthracene	8270	--	<0.100		
Benzo (b) Fluoranthene	8270	--	<0.250		
Benzo (g,h,i) Perylene	8270	--	<0.250		
Benzo (a) Pyrene	8270	--	<0.250		
Chrysene	8270	--	<0.100		
Fluoranthene	8270	--	<0.100		
Fluorene	8270	--	<0.100		
2-Methylnaphthalene	8270	--	<0.100		
Naphthalene	8270	--	<0.100		
Phenanthrene	8270	--	<0.100		
Pyrene	8270	--	<0.100		
Carbon Chain Range (mg/kg)	8015m	--	--		
PCBs (mg/kg)	8080	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 4 for sample locations

TABLE 3
Analytical Data Summary
Remedial Excavation OA1-RE-2 Confirmation Samples
Page 1 of 5

		Sample Number, Collection Date, Grid Location and Depth				
		OA1-GS-1-4' 7/22/97	OA1-GS-2-6' 7/22/97	OA1-GS-7-12' 7/22/97		
Analyte	**EPA Method**	**A.10/A.11-43.5 @ 4' bgs***	**A.10/A.11-42.5 @ 6' bgs***	**A.9/A.10-42.5 @ 12' bgs***	**Regulatory Levels**	
					TTLC (mg/kg)	**STLC (mg/L)**
TRPH (mg/kg)	418.1	<8.0	10	9.0		
Title 22 Metals (mg/kg)						
Antimony	6010	<5.0	<5.0	<5.0	**500**	**15**
Arsenic	6010	<1.0	<1.0	<1.0	**500**	**5**
Barium	6010	110	140	100	**10,000**	**100**
Beryllium	6010	<0.1	<0.1	<0.1	**75**	**0.75**
Cadmium	6010	<0.1	<0.1	<0.1	**100**	**1**
Chromium (VI)	7196	<0.5	<0.5	<0.5	**500**	**5**
Chromium (total)	6010	26	35	36	**2,500**	**5**
Cobalt	6010	6.9	8.6	9.4	**8,000**	**80**
Copper	6010	9.6	13	21	**2,500**	**25**
Lead (total)	6010	<1.0	<1.0	<1.0	**1,000**	**5**
Mercury	7471	<0.01	<0.01	<0.01	**20**	**0.2**
Molybdenum	6010	<0.5	<0.5	<0.5	**3,500**	**350**
Nickel	6010	11	15	18	**2,000**	**20**
Selenium	6010	<1.0	<1.0	<1.0	**100**	**1**
Silver	6010	<0.1	<0.1	<0.1	**500**	**5**
Thallium	6010	<5.0	<5.0	<5.0	**700**	**7**
Vanadium	6010	31	42	42	**2,400**	**24**
Zinc	6010	35	50	55	**5,000**	**250**
VOCs (1) (mg/kg)						
Ethylbenzene	8260	<0.0025	<0.0025	--		
Trichloroethene	8260	<0.0025	<0.0025	--		
Total Xylenes	8260	<0.0025	<0.0025	--		
n-Propylbenzene	8260	<0.0025	<0.0025	--		
1,3,5-Trimethylbenzene	8260	<0.0025	<0.0025	--		
1,2,4-Trimethylbenzene	8260	<0.0025	<0.0025	--		
n-Butylbenzene	8260	<0.0025	<0.0025	--		
Naphthalene	8260	<0.0025	<0.0025	--		
SVOCs (1) (mg/kg)						
Anthracene	8270	<0.100	<0.100	--		
Benzo (a) Anthracene	8270	<0.100	0.140	--		
Benzo (b) Fluoranthene	8270	<0.250	0.270	--		
Benzo (k) Fluoranthene	8270	<0.250	<0.250	--		
Benzo (g,h,i) Perylene	8270	<0.250	<0.250	--		
Benzo (a) Pyrene	8270	<0.250	<0.250	--		
Chrysene	8270	<0.100	0.300	--		
Dibenz (a,h) Anthracene	8270	<0.100	<0.100	--		
Fluoranthene	8270	<0.100	0.460	--		
Fluorene	8270	<0.100	<0.100	--		
Indeno(1,2,3-cd)Pyrene	8270	<0.250	<0.250	--		
2-Methylnaphthalene	8270	<0.100	<0.100	--		
Naphthalene	8270	<0.100	<0.100	--		
Phenanthrene	8270	<0.100	0.220	--		
Pyrene	8270	<0.100	0.510	--		
Carbon Chain Range (mg/kg)	8015m	--	--	--		
PCBs (mg/kg)	8080	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 5 for sample locations

TABLE 3
Analytical Data Summary
Remedial Excavation OA1-RE-2 Confirmation Samples

		Sample Number, Collection Date, Grid Location and Depth			Regulatory Levels	
		OA1-GS-8-12' 7/22/97	OA1-GS-9-10' 7/22/97	OA1-GS-10-4' 7/22/97		
Analyte	**EPA Method**	**A.9/A.10-41.5 @ 12' bgs***	**A.9/A.10-40.5 @ 10' bgs***	**A.9/A.10-39.5 @ 4' bgs***	**TTLC (mg/kg)**	**STLC (mg/L)**
TRPH (mg/kg)	418.1	13	19	<8.0		
Title 22 Metals (mg/kg)						
Antimony	6010	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	500	5
Barium	6010	160	120	99	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	34	24	23	2,500	5
Cobalt	6010	9.8	7.3	6.9	8,000	80
Copper	6010	20	12	9.0	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	18	12	9.4	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	700	7
Vanadium	6010	41	28	28	2,400	24
Zinc	6010	58	41	32	5,000	250
VOCs (1) (mg/kg)						
Ethylbenzene	8260	<0.0025	<0.0025	--		
Trichloroethene	8260	<0.0025	<0.0025	--		
Total Xylenes	8260	<0.0025	<0.0025	--		
n-Propylbenzene	8260	<0.0025	<0.0025	--		
1,3,5-Trimethylbenzene	8260	<0.0025	<0.0025	--		
1,2,4-Trimethylbenzene	8260	<0.0025	<0.0025	--		
n-Butylbenzene	8260	<0.0025	<0.0025	--		
Naphthalene	8260	<0.0025	<0.0025	--		
SVOCs (1) (mg/kg)						
Anthracene	8270	<0.100	<0.100	--		
Benzo (a) Anthracene	8270	<0.100	<0.100	--		
Benzo (b) Fluoranthene	8270	<0.250	<0.250	--		
Benzo (k) Fluoranthene	8270	<0.250	<0.250	--		
Benzo (g,h,i) Perylene	8270	<0.250	<0.250	--		
Benzo (a) Pyrene	8270	<0.250	<0.250	--		
Chrysene	8270	<0.100	<0.100	--		
Dibenz (a,h) Anthracene	8270	<0.100	<0.100	--		
Fluoranthene	8270	<0.100	<0.100	--		
Fluorene	8270	<0.100	<0.100	--		
Indeno(1,2,3-cd)Pyrene	8270	<0.250	<0.250	--		
2-Methylnaphthalene	8270	<0.100	<0.100	--		
Naphthalene	8270	<0.100	<0.100	--		
Phenanthrene	8270	<0.100	<0.100	--		
Pyrene	8270	<0.100	<0.100	--		
Carbon Chain Range (mg/kg)	8015m	--	--	--		
PCBs (mg/kg)	8080	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 5 for sample locations

TABLE 3
Analytical Data Summary
Remedial Excavation OA1-RE-2 Confirmation Samples

Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth: OA1-GS-11-4' 7/22/97 A.9/A.10-38.5 @ 4' bgs*	OA1-GS-15-12' 7/22/97 A.8/A.9-40.5 @ 12' bgs*	OA1-GS-16-12' 7/22/97 A.8/A.9-39.5 @ 12' bgs*	Regulatory Levels: TTLC (mg/kg)	Regulatory Levels: STLC (mg/L)
TRPH (mg/kg)	418.1	13	6,300	420		
Title 22 Metals (mg/kg)						
Antimony	6010	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	500	5
Barium	6010	120	100	140	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	25	21	36	2,500	5
Cobalt	6010	6.5	8.2	10	8,000	80
Copper	6010	11	14	21	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	10	12	17	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	700	7
Vanadium	6010	30	28	41	2,400	24
Zinc	6010	34	40	56	5,000	250
VOCs (1) (mg/kg)						
Ethylbenzene	8260	<0.0025	0.700	<0.050		
Trichloroethene	8260	<0.0025	<0.200	0.085		
Total Xylenes	8260	<0.0025	0.540	<0.050		
n-Propylbenzene	8260	<0.0025	0.590	0.056		
1,3,5-Trimethylbenzene	8260	<0.0025	3.600	<0.050		
1,2,4-Trimethylbenzene	8260	<0.0025	9.100	<0.050		
n-Butylbenzene	8260	<0.0025	0.680	0.084		
Naphthalene	8260	<0.0025	31.000	3.100		
SVOCs (1) (mg/kg)						
Anthracene	8270	<0.100	5.000	1.600		
Benzo (a) Anthracene	8270	<0.100	6.200	2.500		
Benzo (b) Fluoranthene	8270	<0.250	<5.000	1.400		
Benzo (k) Fluoranthene	8270	<0.250	<5.000	0.500		
Benzo (g,h,i) Perylene	8270	<0.250	<5.000	1.400		
Benzo (a) Pyrene	8270	<0.250	<5.000	2.300 #		
Chrysene	8270	<0.100	8.800	4.200		
Dibenz (a,h) Anthracene	8270	<0.100	<2.000	<0.200		
Fluoranthene	8270	<0.100	7.600	2.600		
Fluorene	8270	<0.100	6.400	1.400		
Indeno(1,2,3-cd)Pyrene	8270	<0.250	<5.000	<0.500		
2-Methylnaphthalene	8270	<0.100	130.000	19.000		
Naphthalene	8270	<0.100	36.000	4.800		
Phenanthrene	8270	<0.100	36.000	13.000		
Pyrene	8270	<0.100	26.000	12.000		
Carbon Chain Range (mg/kg)	8015m	--	--	--		
PCBs (mg/kg)	8080	--	ND	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls
# = Exceeds Screening Level

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 5 for sample locations

TABLE 3
Analytical Data Summary
Remedial Excavation OA1-RE-2 Confirmation Samples

		Sample Number, Collection Date, Grid Location and Depth				
		OA1-GS-23-12' 7/23/97	OA1-GS-24-4' 7/23/97	OA1-GS-30-12' 7/23/97	Regulatory Levels	
Analyte	**EPA Method**	**A.7/A.8-40.5 @ 12' bgs***	**A.7/A.8-39.5 @ 4' bgs***	**A.6/A.7-40.5 @ 12' bgs***	**TTLC (mg/kg)**	**STLC (mg/L)**
TRPH (mg/kg)	418.1	<8.0	<8.0	<8.0		
Title 22 Metals (mg/kg)						
Antimony	6010	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	500	5
Barium	6010	82	93	91	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	27	25	24	2,500	5
Cobalt	6010	7.1	5.8	7.1	8,000	80
Copper	6010	15	9.9	15	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	13	7.9	14	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	700	7
Vanadium	6010	32	27	31	2,400	24
Zinc	6010	43	30	43	5,000	250
VOCs (1) (mg/kg)						
Ethylbenzene	8260	--	--	--		
Trichloroethene	8260	--	--	--		
Total Xylenes	8260	--	--	--		
n-Propylbenzene	8260	--	--	--		
1,3,5-Trimethylbenzene	8260	--	--	--		
1,2,4-Trimethylbenzene	8260	--	--	--		
n-Butylbenzene	8260	--	--	--		
Naphthalene	8260	--	--	--		
SVOCs (1) (mg/kg)						
Anthracene	8270	--	--	--		
Benzo (a) Anthracene	8270	--	--	--		
Benzo (b) Fluoranthene	8270	--	--	--		
Benzo (k) Fluoranthene	8270	--	--	--		
Benzo (g,h,i) Perylene	8270	--	--	--		
Benzo (a) Pyrene	8270	--	--	--		
Chrysene	8270	--	--	--		
Dibenz (a,h) Anthracene	8270	--	--	--		
Fluoranthene	8270	--	--	--		
Fluorene	8270	--	--	--		
Indeno(1,2,3-cd)Pyrene	8270	--	--	--		
2-Methylnaphthalene	8270	--	--	--		
Naphthalene	8270	--	--	--		
Phenanthrene	8270	--	--	--		
Pyrene	8270	--	--	--		
Carbon Chain Range (mg/kg)	8015m	--	--	--		
PCBs (mg/kg)	8080	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 5 for sample locations

TABLE 3
Analytical Data Summary
Remedial Excavation OA1-RE-2 Confirmation Samples

		Sample Number, Collection Date, Grid Location and Depth				
		OA1-GS-31-4' 7/23/97	OA1-GS-32-2' 7/23/97	OA1-GS-65-2' 7/28/97	Regulatory Levels	
Analyte	**EPA Method**	**A.6/A.7-39.5 @ 4' bgs***	**A.6/A.7-38.5 @ 2' bgs***	**A.4/A.5-39.5 @ 2' bgs***	**TTLC (mg/kg)**	**STLC (mg/L)**
TRPH (mg/kg)	418.1	<8.0	91	<8.0		
Title 22 Metals (mg/kg)						
Antimony	6010	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	500	5
Barium	6010	6.5	98	54	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	16	28	16	2,500	5
Cobalt	6010	5.0	5.9	5.3	8,000	80
Copper	6010	7.4	11	7.1	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	6.0	10	5.5	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	700	7
Vanadium	6010	20	30	23	2,400	24
Zinc	6010	19	49	19	5,000	250
VOCs (1) (mg/kg)						
Ethylbenzene	8260	--	<0.0025	--		
Trichloroethene	8260	--	<0.0025	--		
Total Xylenes	8260	--	<0.0025	--		
n-Propylbenzene	8260	--	<0.0025	--		
1,3,5-Trimethylbenzene	8260	--	<0.0025	--		
1,2,4-Trimethylbenzene	8260	--	<0.0025	--		
n-Butylbenzene	8260	--	<0.0025	--		
Naphthalene	8260	--	<0.0025	--		
SVOCs (1) (mg/kg)						
Anthracene	8270	--	<0.100	--		
Benzo (a) Anthracene	8270	--	0.150	--		
Benzo (b) Fluoranthene	8270	--	0.250	--		
Benzo (k) Fluoranthene	8270	--	<0.250	--		
Benzo (g,h,i) Perylene	8270	--	<0.250	--		
Benzo (a) Pyrene	8270	--	<0.250	--		
Chrysene	8270	--	0.340	--		
Dibenz (a,h) Anthracene	8270	--	<0.100	--		
Fluoranthene	8270	--	0.420	--		
Fluorene	8270	--	<0.100	--		
Indeno(1,2,3-cd)Pyrene	8270	--	<0.250	--		
2-Methylnaphthalene	8270	--	<0.100	--		
Naphthalene	8270	--	<0.100	--		
Phenanthrene	8270	--	0.120	--		
Pyrene	8270	--	0.530	--		
Carbon Chain Range (mg/kg)	8015m	--	--	--		
PCBs (mg/kg)	8080	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 5 for sample locations

TABLE 4
Analytical Data Summary
Remedial Excavation OA1-RE-3 Confirmation Samples
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Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth					Regulatory Levels	
		OA1-GS-3-4' 7/22/97 A.10/A.11-41.5 @ 4' bgs*	OA1-GS-4-6' 7/22/97 A.10/A.11-40.5 @ 6' bgs*	OA1-GS-5-3' 7/22/97 A.10/A.11-39.5 @ 3' bgs*	OA1-GS-17-12' 7/22/97 A.8/A.9-38.5 @ 12' bgs*	OA1-GS-18-12' 7/22/97 A.8/A.9-37.5 @ 12' bgs*	TTLC (mg/kg)	STLC (mg/L)
TRPH (mg/kg)	418.1	14	<8.0	9.0	25	<8.0		
Title 22 Metals (mg/kg)								
Antimony	6010	<5.0	<5.0	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	<1.0	<1.0	500	5
Barium	6010	130	110	70	110	240	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	30	27	17	32	34	2,500	5
Cobalt	6010	9.8	7.0	6.0	9.0	9.5	8,000	80
Copper	6010	11	11	8.0	18	20	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	13	13	6.9	16	17	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	<5.0	<5.0	700	7
Vanadium	6010	37	36	26	36	39	2,400	24
Zinc	6010	41	42	22	52	55	5,000	250
VOCs (1) (mg/kg)								
Trichloroethene	8260	<0.0025	<0.0025	<0.0025	<0.0025	--		
SVOCs (1) (mg/kg)								
bis(2-ethylhexyl)phthalate	8270	<0.100	<0.100	<0.100	<0.100	--		
Chrysene	8270	<0.100	<0.100	<0.100	<0.100	--		
Pyrene	8270	<0.100	<0.100	<0.100	<0.100	--		
Carbon Chain Range (mg/kg)	8015m	--	--	--	--	--		
PCBs (mg/kg)	8080	--	--	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 6 for sample locations

TABLE 4
Analytical Data Summary
Remedial Excavation OA1-RE-3 Confirmation Samples

Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth					Regulatory Levels	
		OA1-GS-19-6' 7/22/97 A.9-37.5 @ 6' bgs*	OA1-GS-25-2' 7/23/97 A.7/A.8-38.5 @ 2' bgs*	OA1-GS-26-2' 7/23/97 A.7/A.8-37.5 @ 2' bgs*	OA1-GS-37-6' 7/23/97 A.9-36.5 @ 6' bgs*	OA1-GS-38-3' 7/23/97 A.9-35.5 @ 3' bgs*	TTLC (mg/kg)	STLC (mg/L)
TRPH (mg/kg)	418.1	<8.0	<8.0	<8.0	<8.0	<8.0		
Title 22 Metals (mg/kg)								
Antimony	6010	<5.0	<5.0	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	<1.0	<1.0	500	5
Barium	6010	99	66	58	82	86	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	18	14	15	21	23	2,500	5
Cobalt	6010	6.0	4.3	4.5	5.4	3.8	8,000	80
Copper	6010	8.4	7.6	6.2	7.8	6.1	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	8.2	5.4	5.1	9.2	6.6	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	<5.0	<5.0	700	7
Vanadium	6010	27	18	22	26	25	2,400	24
Zinc	6010	28	17	19	29	27	5,000	250
VOCs (1) (mg/kg)								
Trichloroethene	8260	<0.0025	--	--	--	<0.0025		
SVOCs (1) (mg/kg)								
bis(2-ethylhexyl)phthalate	8270	<0.100	--	--	--	<0.100		
Chrysene	8270	<0.100	--	--	--	<0.100		
Pyrene	8270	<0.100	--	--	--	<0.100		
Carbon Chain Range (mg/kg)	8015m	--	--	--	--	--		
PCBs (mg/kg)	8080	--	--	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 6 for sample locations

TABLE 4
Analytical Data Summary
Remedial Excavation OA1-RE-3 Confirmation Samples
Page 3 of 4

Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth: OA1-GS-39-6' 7/23/97 A.9-34.5 @ 6' bgs*	OA1-GS-40-6' 7/23/97 A.9-33.5 @ 6' bgs*	OA1-GS-44-10' 7/24/97 A.8/A.9-36.5 @ 10' bgs*	OA1-GS-45-10' 7/24/97 A.8/A.9-35.5 @ 10' bgs*	OA1-GS-46-10' 7/24/97 A.8/A.9-34.5 @ 10' bgs*	Regulatory Levels: TTLC (mg/kg)	Regulatory Levels: STLC (mg/L)
TRPH (mg/kg)	418.1	<8.0	25	<8.0	<8.0	<8.0		
Title 22 Metals (mg/kg)								
Antimony	6010	<5.0	<5.0	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	<1.0	<1.0	500	5
Barium	6010	81	84	120	110	110	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	22	27	24	26	26	2,500	5
Cobalt	6010	5.2	5.0	6.7	6.7	7.4	8,000	80
Copper	6010	6.9	8.8	14	14	14	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	7.7	6.8	11	11	11	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	<5.0	<5.0	700	7
Vanadium	6010	24	22	26	28	30	2,400	24
Zinc	6010	28	34	41	41	45	5,000	250
VOCs (1) (mg/kg)								
Trichloroethene	8260	--	0.011	<0.0025	--	0.0028		
SVOCs (1) (mg/kg)								
bis(2-ethylhexyl)phthalate	8270	--	0.260	<0.100	--	<0.100		
Chrysene	8270	--	0.120	<0.100	--	<0.100		
Pyrene	8270	--	0.150	<0.100	--	<0.100		
Carbon Chain Range (mg/kg)	8015m	--	--	--	--	--		
PCBs (mg/kg)	8080	--	--	--	--	--		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 6 for sample locations

TABLE 4
Analytical Data Summary
Remedial Excavation OA1-RE-3 Confirmation Samples

Analyte	EPA Method	Sample Number, Collection Date, Grid Location and Depth					Regulatory Levels	
		OA1-GS-47-10' 7/24/97 A.8/A.9-33.5 @ 10' bgs*	OA1-GS-51-2' 7/25/97 A.8-36.5 @ 2' bgs*	OA1-GS-52-3' 7/25/97 A.8-35.5 @ 3' bgs*	OA1-GS-53-3' 7/25/97 A.8-34.5 @ 3' bgs*	OA1-GS-54-2' 7/25/97 A.8-33.5 @ 2' bgs*	TTLC (mg/kg)	STLC (mg/L)
TRPH (mg/kg)	418.1	<8.0	<8.0	<8.0	<8.0	<8.0		
Title 22 Metals (mg/kg)								
Antimony	6010	<5.0	<5.0	<5.0	<5.0	<5.0	500	15
Arsenic	6010	<1.0	<1.0	<1.0	<1.0	<1.0	500	5
Barium	6010	92	100	120	130	110	10,000	100
Beryllium	6010	<0.1	<0.1	<0.1	<0.1	<0.1	75	0.75
Cadmium	6010	<0.1	<0.1	<0.1	<0.1	<0.1	100	1
Chromium (VI)	7196	<0.5	<0.5	<0.5	<0.5	<0.5	500	5
Chromium (total)	6010	25	25	24	31	25	2,500	5
Cobalt	6010	6.5	5.1	5.1	7.7	4.6	8,000	80
Copper	6010	14	11	9.2	17	12	2,500	25
Lead (total)	6010	<1.0	<1.0	<1.0	<1.0	<1.0	1,000	5
Mercury	7471	<0.01	<0.01	<0.01	<0.01	<0.01	20	0.2
Molybdenum	6010	<0.5	<0.5	<0.5	<0.5	<0.5	3,500	350
Nickel	6010	11	7.0	8.7	12	7.3	2,000	20
Selenium	6010	<1.0	<1.0	<1.0	<1.0	<1.0	100	1
Silver	6010	<0.1	<0.1	<0.1	<0.1	<0.1	500	5
Thallium	6010	<5.0	<5.0	<5.0	<5.0	<5.0	700	7
Vanadium	6010	28	31	30	40	29	2,400	24
Zinc	6010	41	36	36	45	36	5,000	250
VOCs (1) (mg/kg)								
Trichloroethene	8260	--	--	--	--	--		
SVOCs (1) (mg/kg)								
bis(2-ethylhexyl)phthalate	8270	--	--	--	--	--		
Chrysene	8270	--	--	--	--	--		
Pyrene	8270	--	--	--	--	--		
Carbon Chain Range (mg/kg)	8015m	--	--	--	--	--		
PCBs (mg/kg)	8080	--	--	--	--	ND		

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
-- = not analyzed
bgs = below ground surface
ND = none detected
PCBs = polychlorinated biphenyls

VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds
TRPH = Total Recoverable Petroleum Hydrocarbons
(1) VOCs and SVOCs not listed were not detected
TTLC = California Total Threshold Limit Concentration
STLC = California Soluble Threshold Limit Concentration

* Refer to Figure 6 for sample locations

TABLE 5
Health-Based Remediation Goals (HBRGs) for
Organic Constituents Soil Exposure Pathways (mg/kg)

Constituent	Construction Worker Initial HBRG	Commercial/ Industrial User Initial HBRG	Final HBRG
1-butanol	1.98E+04	3.46E+04	1.98E+04
1,1-dichloroethane	2.23E+03	1.10E+03	1.10E+03
1,1-dichloroethene	1.57E+01	4.21E+00	4.21E+00
1,1,1,2-tetrachloroethane	4.98E+02	1.44E+04	4.98E+02
1,1,2-trichloroethane	2.23E+02	1.26E+03	2.23E+02
1,1,2,2-tetrachloroethane	6.25E+01	1.50E+03	6.25E+01
1,2-dibromo-3-chloropropane	2.42E+00	7.47E+01	2.42E+00
1,2-dibromoethane	4.86E+00	1.84E+02	4.86E+00
1,2-dichlorobenzene	NA	2.64E+06	2.64E+06
1,2-dichloroethane	2.06E+02	2.66E+02	2.06E+02
1,2-dichloropropane	3.37E+01	7.25E+00	7.25E+00
1,2-diphenylhydrazine	2.03E+01	2.36E+08	2.03E+01
1,2,3-trichloropropane	2.39E+00	4.08E+01	2.39E+00
1,2,4-trichlorobenzene	1.74E+02	4.74E+07	1.74E+02
1,3-dichloropropene	4.83E+01	6.63E+02	4.83E+01
1,4-dichlorobenzene	4.32E+02	4.37E+04	4.32E+02
2-butanone	3.28E+04	2.35E+06	3.28E+04
2-chlorophenol	8.57E+02	1.17E+06	8.57E+02
2-methylphenol	8.66E+03	7.59E+07	8.66E+03
2-naphthylamine	9.81E+00	1.63E+06	9.81E+00
2,4-dichlorophenol	5.21E+01	2.22E+07	5.21E+01
2,4-dimethylphenol	3.48E+03	4.37E+08	3.48E+03
2,4-dinitrophenol	3.49E+01	7.14E+09	3.49E+01
2,4-dinitrotoluene	3.48E+01	7.62E+06	3.48E+01
2,4,5-trichlorophenol	1.73E+04	2.21E+08	1.73E+04
2,4,6-trichlorophenol	2.52E+02	1.10E+07	2.52E+02
2,6-dinitrotoluene	2.59E+01	4.51E+05	2.59E+01
3,3-dichlorobenzidine	1.47E+01	7.53E+08	1.47E+01
4-chloroaniline	6.93E+01	6.50E+06	6.93E+01
4-methyl-2-pentanone	1.20E+04	6.84E+05	1.20E+04
4-methylphenol	8.69E+01	4.01E+07	8.69E+01
4,4-ddd	1.03E+02	9.97E+08	1.03E+02
4,4-dde	7.28E+01	2.83E+06	7.28E+01
4,4-ddt	1.22E+01	2.26E+08	1.22E+01
acenaphthene	8.10E+03	1.62E+08	8.10E+03
acetone	1.55E+04	4.37E+05	1.55E+04
acrolein	NA	8.05E+01	8.05E+01
acrylonitrile	1.59E+01	7.65E+01	1.59E+01

TABLE 5
Health-Based Remediation Goals (HBRGs) for
Organic Constituents Soil Exposure Pathways (mg/kg)

Constituent	Construction Worker Initial HBRG	Commercial/ Industrial User Initial HBRG	Final HBRG
aldrin	7.32E-01	2.82E+04	7.32E-01
alpha-bhc	3.93E+00	2.32E+05	3.93E+00
aniline	3.10E+03	1.02E+07	3.10E+03
anthracene	4.06E+03	1.37E+10	4.06E+03
aroclor 1016	NA	7.35E+05	7.35E+05
aroclor 1254	8.70E-01	5.69E+05	8.70E-01
benzene	1.43E+02	1.71E+02	1.43E+02
benzidine	3.52E-02	1.55E+02	3.52E-02
benzoic acid	6.96E+04	6.58E+10	6.96E+04
benzo(a)anthracene	1.14E+01	1.13E+09	1.14E+01
benzo(a)pyrene	1.14E+00	9.56E+07	1.14E+00
benzo(b)fluoranthene	1.14E+01	3.19E+08	1.14E+01
benzo(k)fluoranthene	1.14E+01	9.56E+07	1.14E+01
benzyl alcohol	1.73E+04	3.81E+08	1.73E+04
benzyl chloride	1.00E+02	4.03E+03	1.00E+02
beta-bhc	1.38E+01	9.94E+06	1.38E+01
beta-chloronaphthalene	NA	2.32E+07	2.32E+07
bis(2-chloro-1-methylethyl)ether	2.49E+02	2.93E+04	2.49E+02
bis(2-chloroethyl)ether	6.91E+00	6.91E+02	6.91E+00
bis(2-ethylhexyl)phthalate	2.10E+03	3.59E+09	2.10E+03
bromodichloromethane	1.30E+02	2.94E+03	1.30E+02
bromoform	3.34E+02	1.28E+05	3.34E+02
bromomethane	NA	1.15E+02	1.15E+02
carbazole	8.83E+02	6.66E+08	8.83E+02
carbon disulfide	1.43E+03	7.04E+04	1.43E+03
carbon tetrachloride	9.71E+01	1.35E+02	9.71E+01
chlordane	1.04E+00	1.55E+05	1.04E+00
chlorobenzene	NA	2.83E+04	2.83E+04
chloroform	1.49E+02	9.58E+02	1.49E+02
chloromethane	7.43E+02	7.40E+01	7.40E+01
chrysene	1.14E+02	5.06E+10	1.14E+02
cis-1,2-dichloroethene	1.34E+03	7.51E+03	1.34E+03
cumene	3.79E+03	5.73E+04	3.79E+03
dibenzo(a,h)anthracene	3.35E+00	6.34E+11	3.35E+00
dibromochloromethane	1.50E+02	1.54E+02	1.50E+02
dichlorodifluoromethane	2.14E+03	7.01E+02	7.01E+02
dieldrin	1.22E+00	2.33E+04	1.22E+00
diethyl phthalate	1.39E+05	6.03E+09	1.39E+05
di-n-butylphthalate	1.74E+04	4.19E+08	1.74E+04

TABLE 5
Health-Based Remediation Goals (HBRGs) for
Organic Constituents Soil Exposure Pathways (mg/kg)

Constituent	Construction Worker Initial HBRG	Commercial/ Industrial User Initial HBRG	Final HBRG
di-n-octylphthalate	3.49E+02	1.80E+10	3.49E+02
endosulfan	1.46E+02	2.14E+08	1.46E+02
endrin	7.33E+00	1.37E+08	7.33E+00
ethyl chloride	1.42E+05	1.57E+06	1.42E+05
ethylbenzene	NA	7.33E+05	7.33E+05
fluoranthene	6.97E+03	3.03E+10	6.97E+03
fluorene	6.94E+03	1.40E+08	6.94E+03
gamma-bhc	2.32E+01	2.63E+05	2.32E+01
heptachlor	2.87E+00	1.78E+03	2.87E+00
heptachlor epoxide	3.14E-01	1.35E+03	3.14E-01
hexachlorobenzene	9.69E+00	2.80E+03	9.69E+00
hexachlorobutadiene	2.24E+02	7.13E+04	2.24E+02
hexachlorocyclopentadiene	8.87E+01	9.79E+02	8.87E+01
hexachloroethane	1.73E+02	2.39E+05	1.73E+02
indeno(1,2,3-cd)pyrene	1.47E+01	1.23E+11	1.47E+01
isobutyl alcohol	4.81E+04	2.55E+06	4.81E+04
isophorone	1.85E+04	2.92E+07	1.85E+04
methoxychlor	8.71E+01	1.48E+09	8.71E+01
methyl methacrylate	1.06E+03	5.56E+04	1.06E+03
methylene bromide	1.51E+03	2.75E+04	1.51E+03
methylene chloride	1.07E+03	1.26E+03	1.07E+03
methyl-tert-butyl ether	NA	1.39E+06	1.39E+06
n-butylbenzyl phthalate	3.48E+03	6.52E+09	3.48E+03
nitroaniline, o-	8.07E+03	2.45E+06	8.07E+03
nitrobenzene	8.61E+01	1.78E+05	8.61E+01
nitrosodiphenylamine, p-	8.02E+02	1.03E+07	8.02E+02
n-nitrosodimethylamine	2.60E-01	1.38E-02	1.38E-02
n-nitroso-di-n-propylamine	2.48E+00	4.46E+02	2.48E+00
n-nitrosodiphenylamine	1.96E+03	4.80E+09	1.96E+03
o-chlorotoluene	3.14E+03	1.05E+05	3.14E+03
p-chloro-m-cresol	3.48E+04	NA	3.48E+04
pentachlorophenol	3.04E+02	3.09E+07	3.04E+02
phenol	1.04E+04	3.14E+09	1.04E+04
pyrene	2.35E+03	4.11E+10	2.35E+03
styrene	3.02E+05	7.58E+06	3.02E+05
tetrachloroethene	3.36E+02	7.52E+03	3.36E+02
toluene	3.12E+04	2.41E+05	3.12E+04
toxaphene	1.47E+01	9.16E+04	1.47E+01
trans-1,2-dichloroethene	2.68E+03	1.47E+04	2.68E+03

TABLE 5
Health-Based Remediation Goals (HBRGs) for
Organic Constituents Soil Exposure Pathways (mg/kg)
Page 4 of 5

Constituent	Construction Worker Initial HBRG	Commercial/ Industrial User Initial HBRG	Final HBRG
trichloroethene	1.05E+03	1.39E+03	1.05E+03
trichlorofluoromethane	1.03E+04	4.89E+04	1.03E+04
vinyl acetate	5.41E+03	2.31E+05	5.41E+03
vinyl chloride	5.16E+00	1.81E-01	1.81E-01
xylenes	3.26E+04	2.61E+07	3.26E+04

TABLE 5
Health-Based Remediation Goals (HBRGs) for
Inorganic Constituents Soil Exposure Pathways (mg/kg)

Compound	Initial HBRG	ILM Background*	Final HBRG
aluminum	NT	3.63E+04	3.63E+04
antimony	9.05E+00	5.00E+00	9.05E+00
arsenic	8.87E+00	1.40E+01	1.40E+01
barium	2.52E+03	2.81E+02	2.52E+03
beryllium	1.56E+01	7.40E-01	1.56E+01
cadmium	1.64E+01	8.80E-01	1.64E+01
calcium	NT	3.80E+04	3.80E+04
chromium iii	3.22E+04	4.10E+01	3.22E+04
chromium vi	9.73E+01	NA	9.73E+01
cobalt	NT	2.00E+01	2.00E+01
copper	1.26E+03	5.30E+01	1.26E+03
cyanide	6.99E+02	NA	6.99E+02
iron	NT	6.05E+04	6.05E+04
lead	NT	1.11E+02	1.11E+02
mercury	6.78E+00	2.80E-01	6.78E+00
molybdenum	1.24E+03	2.30E+01	1.24E+03
nickel	2.39E+02	2.90E+01	2.39E+02
potassium	NT	8.26E+03	8.26E+03
selenium	1.82E+02	1.24E+03	1.24E+03
silver	1.30E+02	2.39E+02	2.39E+02
sodium	NT	1.96E+03	1.96E+03
thallium	NT	1.10E+01	1.10E+01
titanium	NT	1.95E+03	1.95E+03
vanadium	8.37E+01	8.20E+01	8.37E+01
zinc	8.73E+03	1.98E+02	8.73E+03

NOTES:
*ILM background values provided in Baseline Risk Assessment (G&M 1996).
NT = No Toxicity values available for calculation of HBRG
NA = Not Available.